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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/623,533

07/22/2003

Eric R. Fossum

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4895

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03/13/2006

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EXAMINER

SEFER, AHMED N

ART UNIT	PAPER NUMBER
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2826

DATE MAILED: 03/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/623,533

Applicant(s)

FOSSUM ET AL.

Examiner

A. Sefer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 December 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 22,24,25,27-33 and 53-58 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 53,54,57 and 58 is/are allowed.
- 6) ☒ Claim(s) 22,24,25,27-33,55 and 56 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/21/2005 has been entered.

### ***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "400" and "410" (par. 0028) have both been used to designate **“the first well.”** Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction

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of the following is required: The recitation of claim 25 calling for, "said separate semiconductor well" lacks proper antecedent basis.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 55 (**claim 56 depends from claims 55**) is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The application as originally filed does not specifically support the claim limitation "such that said photosensor is **located within said second n-well region**". The specification merely discloses (see par. 0028) that photosensor is located within the **first n-well region**.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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7. Claims 22, 24, 25 and 27-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Anderson et al. ("Anderson") USPN 2005/0127414.

The applied reference has a common assignee/inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Anderson discloses in fig. 3 a method, comprising: receiving a photoelectrically induced signal in an array of photoreceptors 60/84 (col. 1, lines 20-30) on a semiconductor substrate (col. 1, lines 30-40); controlling each photoreceptor in the array of photoreceptors to simultaneously initiate a common integration period (col. 2, lines 42-46, col. 3, lines 43-50 and col. 4, lines 29-39); at the end of each integration period, controlling each photoreceptor in the array of photoreceptors to transfer its photoelectrically induced signal to a separated storage node 54 located within a semiconductor well region formed in the semiconductor substrate (col. 1, lines 30-40); and preventing said separated storage node from integrating charge (col. 4, lines 23-28).

Regarding claim 24, Anderson discloses forming said separated storage node with a light shield overlying at least said separated storage node (col. 4, lines 23-28).

Regarding claim 25, Anderson discloses forming **said separate semiconductor well** with a light shield overlying said semiconductor well (col. 4, lines 23-28).

Regarding claim 26, Anderson discloses said preventing comprises shielding said separated storage node from incoming light (col. 4, lines 23-28).

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Regarding claim 27, Anderson discloses (cols. 2 and 4, lines 6-18 and 18-27 respectively) enabling a first reset operation which resets a value of said storage node 54, and enabling a second reset operation, which resets a value of said photoreceptor 84.

Regarding claim 28, Anderson discloses (col. 4, lines 9-22 and 49-65) said first and second reset operations each comprises activating a gate within said separate semiconductor well.

Regarding claim 29, Anderson discloses (cols. 4 and 5, lines 29-60 and lines 7-15 respectively and abstract) said photoelectrically induced signal is a signal indicative of charge produced by said photoreceptor during said integration period.

Regarding claim 30, Anderson discloses (col. 3, lines 28-42) said photoreceptor includes a photodiode.

Regarding claim 31, Anderson discloses (col. 1, 32-40) said photoreceptor includes a photogate.

Regarding claim 32, Anderson discloses (col. 4, lines 23-28 and lines 48-65) preventing said photoreceptor from acquiring a photoelectrically induced signal which is greater than a predetermined amount.

Regarding claim 33, Anderson discloses in fig 3A forming a second separated semiconductor well (under RST 74) for each of the plurality of photoreceptors in the array.

***Allowable Subject Matter***

8. Claims 53, 54, 57 and 58 are allowed.

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9. The following is a statement of reasons for the indication of allowable subject matter: A reference which is pertinent to applicant's disclosure, Anderson, fails to teach the steps of forming first well region separated from a photosensor and being doped to a first conductivity type; forming a storage region located in the first well region and being doped to a second conductivity type. The above limitations in combination with other claim limitations are not taught or fairly suggested by the prior art nor would it be obvious to modify the references of record so as to manufacture a photosensor of the instant application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Sefer whose telephone number is (571) 272-1921. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (571) 272-1915.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ANS  
February 24, 2006



A. Sefer